## FROM NORMAL GREEN TO UNEARTHLY BLUE—AS THE RESULT OF AN ATOMIC EXPLOSION.

During recent years experiments have been conducted at the California Institute of Technology under Dr. Ernest G. Anderson, Professor of Genetics, on the effects of radiation on maize. Among the maize tested are many strains which were exposed to the effects of atomic-bomb explosions at Bikini and Eniwetok. The principal effect of such irradiation is in the alteration of the chromosome structure of the seeds and the consequent "irrational" alteration of the plant's heredity. Freaks, "sports" or mutations occur in nature, but atomic radiation greatly increases the liability to mutation; and, indeed, more than a thousand such mutations have been discovered in the maize under observation in the experiment. Although mutations can be a form of evolutionary advance, most mutations are towards inferior or "freak" forms; and the list of freaks produced in this experiment is formidable, covering not only all the already known freak forms, but adding others. Changes in the chlorophyll-structure are most frequent and plants have appeared with a mosaic or mottling of normal green with abnormally pale green, yellow, or colourless areas. Some were albinos. Other variants included dwarfed or grasslike maize, plants with elongated stems, plants without silks or kernels, others with twisted and contorted leaves and no ears, delicate plants that wither in the sun, plants whose seeds germinate in the ear—and, strangest of all, those we illustrate: plants which differ from the normal only in that they glow a ghostly blue under ultra-violet light. The source of the fluorescence in this particular strain has been discovered to be athranilic acid; but there are several other blue-fluorescent strains still resisting analysis.

**THE MAIZE SEEDLINGS (LEFT TO RIGHT, NUMBERS 1, 3, 5 AND 7) ARE ATOMIC MUTATIONS AND UNDER ULTRA-VIOLET RAYS FLUORESCE PALE-BLUE. UNDER NORMAL LIGHT THEY ARE INDISTINGUISHABLE FROM THE NORMAL CONTROLS (NUMBERS 2, 4, 6, 8 AND 9).**

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THE BULLS'-HEAD CUP OF ENKOMI: A MASTERPIECE OF CYPRIOTE SILVERSMITH'S WORK OF 3300 YEARS AGO, MIRACULOUSLY PRESERVED, AND BRILLIANTLY CLEANED AND RESTORED TO ITS PRISTINE BEAUTY. MADE OF SILVER AND INLAID WITH GOLD AND NIELLO. REPRODUCED NATURAL SIZE.

Elsewhere in this issue Professor Schaeffer tells the story of his excavations at Enkomi, in Cyprus, during 1949 and 1950, and mentions in particular a number of intact burials of the early fourteenth century B.C.—i.e., the late Bronze Age, before the coming of the Sea People to Cyprus. One of these graves appears to have belonged to a family of priests, and has yielded a number of exceptionally fine treasures, chief of which is the cup illustrated on this page. Beside the elbow of one of the male skeletons in the grave were a couple of bowls, one within the other, and both covered with a heavy, lumpy, green corrosion. They were both assumed to be bronze, but they were despatched for cleaning and restoration to the British Museum laboratory, which is directed by Dr. Plenderleith. Under X-rays, the larger of the bowls appeared as a plain metal vessel, but in the smaller, the pattern of a bull's head and floral motifs appeared with startling

*Continued below.*

THE UNDERSIDE OF THE ENKOMI CUP, ALSO REPRODUCED NATURAL SIZE, SHOWING THE SIX BULLS' HEADS, EACH OF SLIGHTLY DIFFERENT DESIGN, AND THE FLORAL ORNAMENTS WHICH SUPPORT THE MAIN MOTIFS. THE TOP END OF THE HANDLE BEARS A REDUCED VERSION OF THE ROSETTE MOTIF. (*Enkomi-Alasia, Vol. I., Plate CXVI.*)

# THE SUPERB ENKOMI CUP: A 3300-YEAR-OLD MASTERPIECE OF SILVER INLAID WITH GOLD AND NIELLO, WONDERFULLY PRESERVED AND RECENTLY FOUND IN CYPRUS.

*Continued.*]

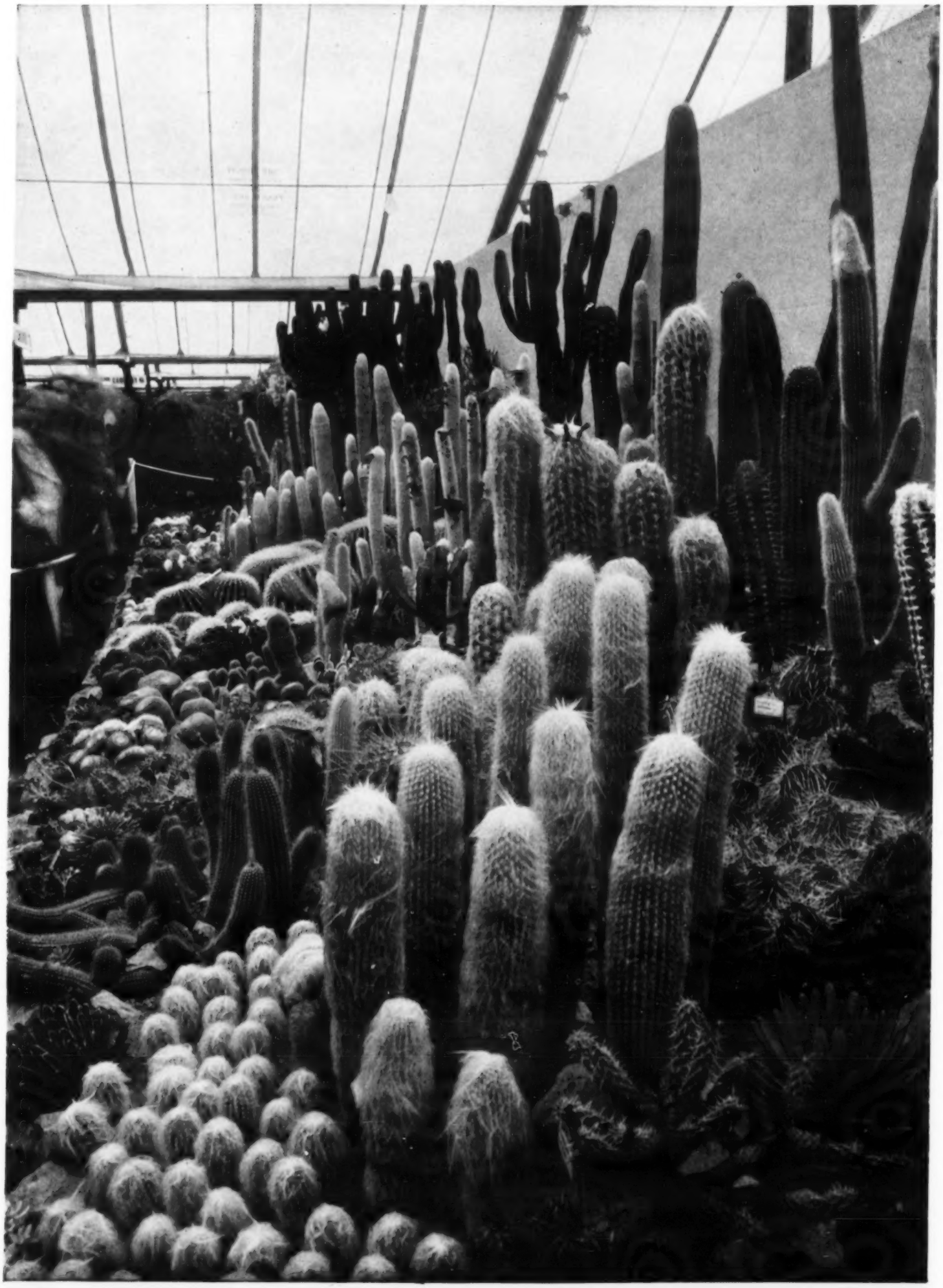
clarity. By means of a complicated treatment the bowl or cup was cleaned and the whole brilliant design emerged in almost pristine beauty—six bulls' heads round the rim, a series of linked rosettes round the base, a number of flower-head designs interspersed, and a pattern of dots round the upper rim—the whole carried out in gold (of slightly varying tone) and niello (a black metallic compound) inlaid in silver. This cup is now on exhibition at the British Museum, and will remain there on loan until August, when it will be returned to the Cyprus Antiquities Department. Both in shape and design it is remarkably like the Dendra Cup of the same period, discovered between the wars in the Peloponnese by the Swedish archæologist, Professor Persson, although the Dendra Cup has a lining of gold; and both are remarkable also, not only for their beauty, but for their use of niello, which is generally assumed to have been used for the first time in the Roman period, some 1300 or 1400 years later than these two cups. The larger bowl in which the Enkomi cup lay was also discovered to be of silver, but very thin, and covered and eroded so heavily with corrosion leached out from the copper alloyed in the silver as to be impossible to clean.

TREASURES FROM THE PRIESTLY TOMBS OF ALASIA, CYPRUS, ALL OVER 3000 YEARS OLD. (TOP LEFT) A WATER-BIRD CUP OF TRANSLUCENT ALABASTER; (TOP RIGHT) A PECTORAL OF GOLD SHEET, SHOWING WINGED SPHINXES FLANKING A TREE OF LIFE; (LEFT CENTRE) TWO COSMETIC VASES LIKE POMEGRANATES, IN MULTI-COLOURED GLASS, WITH (BELOW) A SILVER STATUETTE OF A CHILD; (LOWER RIGHT) STAMP-SEALS, STONE WEIGHTS, AND GOLD EAR- AND FINGER-RINGS. (*Enkomi-Alasia, Vol. I., Plates XIX.-XXV., XL.*)

FROM AN UNTOUCHED TOMB AT ENKOMI OF THE THIRTEENTH CENTURY B.C.: (TOP, LEFT TO RIGHT) A MYCENÆAN STIRRUP VASE IN MULTI-COLOURED FAIENCE WITH A BOWL AND A VASE OF THE SAME MATERIAL; (BELOW, LEFT TO RIGHT) A MINIATURE STIRRUP VASE IN MULTI-COLOURED GLASS AND TWO ENGRAVED IVORY DISCS, ONE STILL BEARING ITS ORIGINAL GOLD RIVET. (*Enkomi-Alasia, Vol. I., Plates XXXIX., XLI., XLIII.*)

# OVER 3000 YEARS OLD: BEAUTIFUL AND SOPHISTICATED TREASURES, RELICS OF A PRIESTLY LINE, FROM UNTOUCHED TOMBS FOUND AT ENKOMI IN CYPRUS.

The various objects shown on this page are among those found by Professor Schaeffer in the priestly tombs excavated at Enkomi (ancient Alasia) in Cyprus during 1949 and 1950, and described by Professor Schaeffer elsewhere in this issue. Some of them come from the actual tomb in which the wonderful silver cup shown on the facing page was found, and so date from the early part of the fourteenth century B.C., others from a near-by tomb of a slightly later date. Although they are not of such surpassing beauty as the silver cup, nevertheless, in their sympathetic and even sophisticated use of such materials as gold, silver, ivory, faience and multi-coloured glass, they reflect the brilliant late Bronze Age culture of the Mediterranean, which the coming of the Sea People was to end. Noteworthy among the objects is the gold pectoral, one of a pair, which came from the same burial as the silver cup, as did the gold signet ring (in the lower centre of the upper picture) which, like the pectoral, bears the image of a winged sphinx. There were some female skeletons in the priestly grave, and it was beside these that the cosmetic jars, the ear-rings, the filigree ring and the ring beside it, showing two dogs guarding a tree of life, and the tiny child-statuette in silver were found—evocations of a fashionable mother of 3000 years ago.



## A CHELSEA "PICTURE OF THE YEAR": SUPERB CACTI, AND SOME SUCCULENTS, IN ALL THEIR FANTASTIC FUNCTIONAL BEAUTY.

This group of cacti, some of them 8 ft. or more tall, was photographed at the 1951 Chelsea Flower Show, where (as Mr. Clarence Elliott said at the time) they formed the "picture of the year"; and concerning this group, Mrs. Vera Higgins, one of England's leading authorities on cacti and succulents, writes: "Cacti are not freaks of nature, but a wonderful adaptation to adverse conditions in which normal plants could not live. . . . It is not often that mature examples of the larger kinds of cacti are seen in England, but some magnificent plants, which attracted much attention, were shown at the 1951 Chelsea Flower Show; they had been brought by Italian nurserymen from the Riviera, where they are grown out of doors and produce flowers freely. The tall, hairy plants in the foreground are the well-known 'Old Man' cactus, and other types of columnar Cerei form the background; whilst towards the front are the rounder types, clumps of Mammillaria and remarkably fine specimens of the golden-spined 'Barrel' cactus. The green rosettes of spine-tipped leaves are small Agaves, and these, like all the true Cacti, are natives of America, but there are many other succulent plants found elsewhere, particularly in South Africa." [*From a colour photograph by Geoffrey Cory-Wright.*]